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19 SEP 1973

OFFICE OF JOINT COMPUTER SUPPORT

ANNUAL REPORT FOR FY 1973

I. GENERAL.

A. Assignment of Computer Support Functions to DDM&S.

FY 1973 was a year of great change in organization structures in CIA. One such change was the movement of the Office of Computer Services from the Directorate of Science and Technology to the Directorate of Management and Services on 1 April 1973. Concurrently, the name of the Office was changed to Office of Joint Computer Support.

Mr. Brownman noted this as a step towards greater consolidation of the Agency's computer activities.

B. Consolidation.

1. CRS.

A plan was developed by OPPB, CRS, and OJCS and work began on a consolidation of CRS and OJCS workloads on OJCS computers. In essence this plan provided for some upgrading of OJCS peripheral devices, cancellation of an IBM 370/158 that was on order for CRS, and (after transfer of the CRS workload to OJCS) releasing the CRS's IBM 360/155. Savings have been estimated at \$900,000 per year in equipment rental, \$710,000 in projected facility construction costs, and a net of five positions. The impact on OJCS was to increase its ceiling by 10 operators and to increase its FY 1974 budget by \$355,000.

2. ISG/DDO.

Coordination of computer planning between ISG/DDO and OJCS was much improved during the FY 1973. Initial talks on consolidation of ISG computer facilities under OJCS management got underway.

3. OEL.

Consolidation here was in a different direction.

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specialized computer processing of analog data over to OEL, OJCS got rid of its ANDI equipment (analog to digital conversion), and OEL acquired mini-computers.

C. Reorganization of OJCS.

25X1A It became apparent too that the time was convenient for a needed reorganization within OJCS. By 31 May 1973 key personnel in the Office and a junior level study group had independently formed some concepts of the major issues that needed to be addressed. A planning group met at [ ] the end of May 1973 and put together a general plan for the Office organization. Perhaps the most dramatic change was a shift to a matrix structured Applications Division. This placed all computer application personnel in several branches of the same Division and provided a Project Management Group for organizing projects, selecting personnel for project teams, and monitoring the progress of development in these projects. Most of the work of getting the organization underway (reassigning personnel, completing organization details within the Divisions, etc.) carried over into the FY 1974.

D. OJCS Management Strategy.

Mr. Iams' strategy for operating the Office was rather basic. It was: to operate the Office in a business-like manner and to make its performance in the development and operation of computer systems open to the view of customers and higher-level management. This strategy led to the pricing of computer services and monthly reports which showed the distribution of computer support to Offices and projects, including those in OJCS. The first report issued in August 1972 covered the activity for all of FY 1972. Thereafter, monthly reports were issued. Later, we developed a plan for allocating computer resources to users in advance of use periods. The idea here was to provide a degree of control over the user demands on OJCS resources.

E. Measurement and Evaluation of Computer Use.

The need for better information on how effectively we were using our computer resources resulted in increased effort to measure and analyze the use of components in the computer system. We looked into various techniques and facilities to accomplish this. We acquired some special software to make these measurements. Where none was available, we built our own. We then began using these programs to get at the data on how well we and our users were using our machines.

2  
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F. Planned Reduction in MAP Staffing.

The SIPS (Support Information Processing System) Task Force (later designated as Management Assistance Programs, MAP) was a major activity affected by the shift of OJCS to the Directorate of Management and Services. Since July 1972, the DD/M&S had been seeking an arrangement with the DD/S&T whereby systems and programming personnel in OJCS who were working on the MAP Task Force could be redistributed to the DD/M&S. In November 1972 Mr. Iams had suggested that, with MAP coming into operational status, some reduction in the manpower that had been required during the development phase should be planned. He felt that as many as [ ] positions might be cut from the project by "FY 1975". He recommended that [ ] of these positions be retained for other management applications outside of MAP, and that the remaining OJCS positions, 23, go to the DD/M&S. Under pressures to reduce overall Agency strength, the DD/S&T applied the [ ] cut to OJCS's FY 1974 program. The movement of OJCS, in its entirety, to the Director of Management and Services made further discussions on this issue moot.

G. Productivity of the IBM 360/195 Computer System.

The installation of the IBM 360/195 computer system at the end of FY 1972 provided a boost in production that enabled us to meet new and heavy processing demands, especially from ODE. For example, CPU hours for ODE were up 91%, from 1650 hours in FY 1972 to 3160 hours in FY 1973.

H. Generalized File Management System (GIMS II).

The main contracting effort [ ] for a generalized file management system was completed. Our funds in this contract were [ ] and there was a substantial contribution of [ ] own funds to build this software.

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II. ACCOMPLISHMENTS.

Note: Most OJCS (component) objectives derive, directly or indirectly, from DCI and/or DD (higher echelon) objectives. All of the objectives discussed in this section are component objectives. When they can be associated with a DCI or DD objective they have been so identified and keyed by a number to one of the higher echelon objectives shown below:

HIGHER ECHELON OBJECTIVES

1. DCI.

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2. DDS&T.

Verify the efforts of OEL and OJCS in the processing of raw intelligence data to assure a useful product for the production activity of the Agency.

3. DDS&T.

Make certain that OJCS successfully operates essential central ADP facilities to accommodate Agency requirements.

4. DCI.

In consultation with each Deputy Director, define and provide the essential support services necessary to the effective performance of the Agency's programs with a reduction in manpower and funding levels of both FY 1974 and FY 1975.

5. DCI.

Assure that the Data Management Centers will be in full operation and carrying out the designed functions of the MAP program by the end of FY 1975, at no increase in projected costs.

6. DDM&S.

Review during FY 1975 and each year thereafter 20% of the activities of each component in the Directorate to determine whether the

reasons and justification for their original establishment continue to exist; assess their capability to satisfy known and projected levels; evaluate their performance in terms of current requirements; and develop a working program performance evaluation system for the continuing evaluation of ongoing programs to see if program objectives are being met and to permit continuing identification of marginal programs and activities which may be candidates for reduction or elimination.

7. Develop during FY 1974 systems which will permit the identification of costs and their allocation to customer components as a means of supporting our own requirements for personnel and other resources.

A. Objective 1. Derived from DD objectives. (No. 3)

1. Statement of Objective.

Put into operation by 30 June 1975 a Mass Storage System for storing two-hundred billion bits of data online; expand this system to a trillion bits in FY 1976.

2. Action Plan.

Initial research into a better method of handling the large amounts of data stored on conventional reels of tape and disk packs began in FY 1972. By November 1972 we had investigated the state-of-the-art for Mass Storage systems as well as development systems at Ampex, Control Data Corporation, Grumman Data Systems, Precision Instruments Corporation, and IBM. Together with ORD and a contractor, [REDACTED], we did feasibility studies which supported further investment in this objective.

The Mass Storage System is a collection of computer hardware and software to be connected to OJCS computer systems for the purpose of storing and managing the large amounts of data which must be constantly moved in and out of our computers. The plan is to procure a Mass Storage System capable of storing one trillion bits of information--about three times the amount of data recorded on magnetic tapes and magnetic disks as of December 1972.

The need for a Mass Storage System was clear. In our request to the Executive Director-Comptroller for approval of our plan in principle we said:

"As the volume of work grows in OJCS, more and more data is recorded on magnetic tapes and disks. These must be catalogued, stored in a library, and circulated to and from the computer systems as the demands for processing data occur. Some conception of the scale of these tasks can be gained from the following:

There are 20,000 reels of tape in use and this is growing by some 3,000 reels per year.

There are 400 disk packs in use and this is growing by 50 per year.

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"There are 40 tape units installed; an average of 12,000 tapes are placed on these units during a month.

There are 132 disk drives installed; 176 will be needed by December 1973.

There are 1,100 square feet of space in the library where tapes and disks are stored. The capacity of the library has nearly been reached.

A Mass Storage System is needed to provide a quick way of handling data so that most of the manual operations needed to handle disk and tapes can be gotten rid of. This will cut down human errors, significantly improve security, speed up access to data, reduce the need for more manpower to handle tapes and disks, lessen growing pressure for equipment space, improve the audit and accounting system for stored data, and generally improve productivity."

An initial system of one-hundred billion bits of Mass Storage was planned for our time sharing computers by the end of June 1974. Full operational status for this initial system was planned during FY 1975 with incremental expansion to a trillion bit system continuing through FY 1975 and FY 1976. Contract and GFE costs were projected at \$2.9 million over FY 1973 and FY 1975.

During the period December 1972 - February 1973, an RFP was prepared and sent to eight contractors. The contractor was selected and the contract negotiations were completed by June 1973.

### 3. Progress and Shortfall.

In the course of the contract negotiations we made several decisions which had a modest effect on schedules and costs:

We decided to increase the initial system to 200 billion bits so that a more extensive test could be made for both our batch services and interactive service, instead of limiting the test to the interactive service.

We decided to pre-test the initial mass storage system at the contractor's facility during the period

7  
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July - September 1974 before installation in OJCS.

These changes moved the planned date for installation in OJCS from April to November 1974 and increased the projected cost for the initial system by \$300,000. Since some of the additional equipment procured with the initial system can be counted against the trillion bit system, the net overall increase in contract costs will be about \$200,000.

4. Problems.

During the FY 1973 phase of this project there were no significant problems encountered.

5. Future Plans.

No change except for those noted in paragraph 3. above.

6. Costs.

Man years:

Dollars:

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B. Objective 2. Derived from DD objectives. (Nos. 3 and 7)

1. Statement of Objective.

Expand the present OJCS resource accounting and pricing system to include facilities for resource allocation by 30 September 1973. The expansion of this system will provide each user with an allocation for computer services in advance of use periods in addition to the after-the-fact accounting of computer services now reported.

2. Action Plan.

General policy and a description of the procedures for a system of allocating OJCS resources to users were completed in April 1973. These papers were coordinated with the Information Processing Staff/OPPB and then forwarded to the DD/M&S for approval in May 1973. The DD/M&S submitted this proposal to the CIA Management Committee which approved it in August 1973.

3. Progress and Shortfall.

The OJCS procedures for this system are ready to go. We are meeting our planned performance on this objective.

4. Problems.

No significant problems.

5. Future Plans.

Individual component allocations based on the level of growth chosen by the CIA Management Committee will be set and the system will be turned over to OPPB for administration by September 1973.

6. Costs.

Man years:

Dollars:

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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

C. Objective 3. Component Objective.

1. Statement of Objective.

Develop by 30 June 1974 a capability for measuring the use of elements in a computer system (tape drives, disk storage, core storage, channels, etc.) and evaluating the needs for such elements in the system.

2. Action Plan.

During FY 1973 various reports and studies of CPU and other component usage on the major computer systems were made. These provided some insight to the type of processing that were causing a major impact on system performance. They also provided an indication of the problems to be encountered in developing a meaningful system for measuring performance. This is a new technology for which IBM and other software companies are still trying to develop appropriate data collection and analysis methods. During the early part of the year we built some experimental data collection and analysis programs of our own and started to collect data in our organization. In May 1973 we acquired two program products for computers performance measurement: Configuration Use Evaluator (CUE) and Data Set Optimizer, [REDACTED] [REDACTED] We have gained experience with the kinds of information this software can produce.

3. Progress and Shortfall.

Reasonable progress was made towards this objective during FY 1973. The principal milestones reached were: to understand the problem, to get a grasp of what is being done in this field by other computer centers, to survey the program products that are on the market, and to begin the development of an OJCS plan and supporting software for a systematic means of measuring system performance.

4. Problems.

This project has suffered because we could not find anyone in the computer industry who knew how to measure properly, and our own resources (systems planning and programming personnel) were scattered among several Office components. The recent reorganization of OJCS has helped to bring together both the responsibilities for this objective and the resources to carry it out.

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

5. Future Plans.

We plan to recruit and train personnel for computer performance measurement functions. We also will review the effectiveness of existing systems [redacted] CUE and DSO), application software that has been developed in house, and special purpose hardware (Compress' Dynaprobe). From this evaluation we will determine what changes or extensions to these tools are needed and then set about to develop them--in house or through contracted services.

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6. Costs.

Man years:

Dollars:

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D. Objective 4. Component Objective.

1. Statement of Objective.

Improve the technical security of OJCS computer systems.

2. Action Plan.

We worked with ORD on their contract with the [ ] Corporation which identified and ranked the security problems in the system software, OS/MVT Release 18.6. A security officer's guide-book was also produced under this contract.

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We worked with the Office of Security on a contract with [ ] which identified security problems with the interactive computer system and recommended solutions. We also developed improved procedures for controlling passwords and reporting access to classified data files on the interactive computer system.

We invited Office of Security participation in the development and installation of the Mass Storage System. This participation has been helpful and is expected to continue.

We attended professional meetings at SHARE which dealt with computer system security. This was in connection with the IBM announcement of their \$40 million commitment to improving computer security.

The cumulative result of all of these endeavors was to increase our knowledge of the technical means for improving computer security.

3. Progress and Shortfall.

Improvements in computer software and equipment to provide absolute security are not easily specified or made. While much has been accomplished to date, much remains to be done. [ ] for example, has not been helpful in addressing our short-term problems. Given the environment in which our computers are used and the procedures which have been developed to limit access to terminals, as much security exists in our computer systems as in our other data handling systems, such as file rooms.

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4. Problems.

The main problem is in acquiring the unique technical skills required to analyze and correct the most important weak spots in computer software and hardware. We are developing these skills in our staff and looking to contractors to provide additional knowhow.

5. Future Plans.

An objective for FY 1974 is to develop a plan by December 1973 for improving the technical security of CP/CMS, the control program for the OJCS time sharing system. Inherent in this plan will be the assignment of specially qualified computer technicians to identify and correct loopholes in system security.

6. Cost.

Man years:

Dollars:

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E. Objective 5. Component Objective.

1. Statement of Objective.

Develop by 30 June 1974 personnel management systems for job descriptions, career paths, training programs, employee evaluations, and career counselling.

2. Action Plan.

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We also employed the same contractor to conduct a skills inventory in our Management Support Division. This provided us with a profile of the training needed to fill in gaps in the skills of programmers and systems analysts.

3. Progress and Shortfall.

This activity has provided a start towards the broader objective stated. The completion of these contracts represents significant milestones of progress.

4. Problems.

The major problem is in obtaining a degree of simplicity and straightforwardness in the language and procedures concerned with the management and development of technical personnel. We believe the traditional job descriptions need sharper focus and less bureaucratic language to make them useful. We also need to devote more time to career counselling and development.

5. Future Plans.

We are setting up a career development officer for counselling with technical personnel, advising them on training needs, and,

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in general, providing them with guidance that will enable them to reach their full potential.

6. Costs.

Man years:

Dollars:



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F. Objective 6. Derived from DD objective. (No. 9)

1. Statement of Objective.

Develop a computer hardware/operating system configuration that uses the increased power of the newly installed IBM 360/195, switching devices, and shared peripheral resources to increase system availability, improve reliability, and reduce maintenance requirements on operating systems.

2. Action Plan.

Prior to FY 1973, we had analyzed our processing commitments and the peripheral resources they required on each major computer system. A plan had been developed for switching these units between central processing units so that, as much as possible, they were shared instead of duplicated on each system. The IBM 360/195 was installed at the end of FY 1972. During FY 1973 physical installations and relocations of computer equipment were carried out by steps over weekends when processing requirements were light. Changes in the operating system software were made in a similar fashion to accommodate the reconfigured systems.

In the management and maintenance of operating system software a significant change in concept came about. There are five major computer systems in the OJCS Computer Center. Our practice had been to maintain five different operating systems, one for each computer. In addition, there was a copy of each operating system used for backup and another copy used as a test module for changes in equipment, configuration, etc. In early FY 1973, it became apparent that maintenance of so many operating systems was becoming unmanageable. After a study of the problem, we were able to reduce the number of operating different systems to three, one for the time sharing system (CP/CMS), and two for batch services (OS/MVT). This has allowed similar reductions in the number of "copies" required for backup and test. This reduced our maintenance effort by one third and improved the stability of the operating systems, see paragraph 3.

3. Progress and Shortfall.

As we proceeded on this phased reconfiguration of the Computer Center, we occasionally met with system problems that caused processing failures and instability. At such times it was necessary to delay the next step until the problem could be isolated

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and corrected. These delays changed our completion for the project from the scheduled date of October 1972 to January 1973. Apart from this, the effort has been very productive. We are now able to reconfigure systems when equipment outages occur so that backup systems can continue to process critical work.

Along with these changes in the physical configuration of the overall computer system, we developed measurement standards which enabled us to track the impact of system changes on such performance factors as mean time to repair (MTTR), mean time between failures (MTBF), and the number of initiate program loads or computer restarts (IPL).

These measurements showed the following performance improvements:

	CP/CMS System			ASP System			IBM 360/195		
	Interactive Services			Batch Services			(Hardware Only)		
	MTTR* (hrs)	MTBF** (hrs)	IPLs*** (no.)	MTTR (hrs)	MTBF (hrs)	IPLs (no.)	MTTR (hrs)	MTBF (hrs)	IPLs (no.)
July 72	1.35	20	30	1.66	16	48	2.32	11	31
June 73	.97	29	11	.92	24	28	1.21	29	14
* MTTR -- mean time to repair. ** MTBF -- mean time between failures. *** IPL -- "initial program load", i. e., restart of the machine after it has gone down.									

#### 4. Problems.

Some problems are described in the preceding paragraph. Other problems were those commonly encountered when new types of equipment are installed. For example, we had hardware failures with Memorex control units, CalComp disk storage, and the Comten data communications controller. Service personnel from the manufacturers and our computer specialists joined forces to solve these problems quickly.

#### 5. Future Plans.

We are developing operating procedures, priorities, and ground rules for various modes of operation in the Computer Center

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so that we can switch equipment and reconfigure the systems with less chance for operator error.

6. Costs.

Man years:

Dollars:

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G. Objective 7. Derived from DD objective. (No. 3)

1. Statements of Objective.

Develop an aid for computer operators which will help them to identify the cause of computer system failures and provide them with a recommended course of action for recovering from such failures.

2. Action Plan.

In analyzing this problem we determined that the operator's normal course of action when a machine failure was encountered was to call a hardware specialist and/or a systems programmer who could provide advice on the probable cause of the failure and the corrective action to be taken. We found that there was some repetition in these processes. The procedures required for identification of the failure, while complex, could be described and documented. Similarly, if the failure could be properly identified it was possible, in most cases, to prescribe a course of action to recover from the failure. With this knowledge, we began to build a System Failure Aid (SFA) that would give the operators more responsibility for solving problems and reduce the amount of time required of systems programmers for such tasks.

3. Progress and Shortfall.

The SFA was developed during the second quarter of FY 1973. It has helped to cut the number of unrecoverable system failures nearly in half.

4. Problems.

None.

5. Future Plans.

The System Failure Aid is a growing body of information. We will add to it as long as we find failures where we are able to specify procedures for identifying and correcting them.

6. Costs.

Man years:

Dollars:

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H. Objective 8. Derived from DD objective. (No. 3)

1. Statement of Objective.

Develop simulation software for IBM 360 equipment so that RCA computer systems can be released by the end of January 1973.

2. Action Plan.

While there were many IBM 360 computer programs in operation by FY 1973 to support the DDM&S "business applications", there was a continuing need for RCA computer equipment to handle on-going RCA programs until such time as they were converted or replaced by new MAP programs. Funds for RCA equipment had been budgeted through January 1973, but it was clear that we would need to retain the equipment beyond that date because of slippage in MAP schedules. As an alternative, the Operations Division set up a plan to build simulation software for the IBM 360 systems so that RCA programs could be run on the IBM equipment and the RCA equipment could be released. \$10,000 was spent on a contract with [REDACTED]

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[REDACTED], Incorporated for the services of [REDACTED], a specialist in this field. This support together with the efforts of our own system programmers produced a workable simulator. Applications programs were then tested and the last of the RCA equipment was removed from the Computer Center on 2 February 1973.

3. Progress and Shortfall.

This objective was fully accomplished. Release of the RCA equipment reduced our rentals by \$27,000 per month.

4. Problems.

We encountered the normal technical problems encountered in a programming effort of this type. Resolution of program "bugs" was hampered by poor documentation for the simulator and old RCA programs.

5. Future Plans.

None. Project complete.

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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

6. Costs.

Man years:

Dollars:

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I. Objective 9. Derived from DD and DCI objectives. (Nos. 3, 5)

1. Statement of Objective.

Complete acceptance testing of GIMS II (Generalized Information Management System).

2. Action Plan.

The acceptance test for GIMS II software consisted of seven stages. The beginning of the test for any stage presumed the successful operation of the prior stage. A modification of any program required complete retesting of all prior stages. Final acceptance, therefore, required the successful operation of all stages without modifying any program along the way.

3. Progress and Shortfall.

We had planned to complete this acceptance test in July 1972, but because of delays on the part of the contractor in delivering the total package for testing, the acceptance test was not completed until September 1972.

4. Problems.

The most difficult part of the GIMS II package to test was the monitor. The functional aspects of the system (editing, user language) were easy to test because all problems were reproducible, i. e., when problems were encountered the program could be modified and the test could be repeated until validation of the results was possible. On the other hand, the monitor responds to a number of external and internal stimuli (hardware interrupts, user requests). It was often impossible to duplicate problems and therefore difficult to test the fixes that were applied to the computer programs.

5. Future Plans.

During the design phase of GIMS II, we decided not to modify the update module of GIMS I. This is not a trivial task; any modification would require extensive testing. After GIMS II is in use for about 12 months it will be reasonable to consider developing specifications for enhancing the update module.

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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

6. Costs.

Man years:

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J. Objective 10. Derived from DCI and DD objectives. (Nos. 3, 4, 5)

1. Statement of Objective.

Complete the analysis and design phase for all MAP applications.

2. Action Plan.

The MAP Task Force was established in FY 1969, and since then a major portion of its effort has gone towards the analysis and design of computer systems to meet the needs of DDM&S Offices. Analysis and design activities include: a determination of the data that is required in the system, the design of formats for collecting data and reporting information, the development of a conversion plan for moving from the existing computer system (when one existed) to the new MAP system, and a validation of the overall system plan with the user office. By FY 1973 we had completed this effort for most offices; our plan was to complete this phase of the MAP design effort so that we could shift our emphasis to completing the other steps that were necessary to bring the new systems into an operational status, i. e., programming, building the data base, testing programs, training customer personnel in the new systems, etc.

3. Progress and Shortfall.

About 80% of the analysis and design work was completed by the end of FY 1973.

4. Problems.

There were major changes in organization and management in CIA which impacted on this objective. These pointed up the need for meeting with DDM&S offices to review progress, priorities, and future plans for MAP.

5. Future Plans.

Meet with DDM&S Office Directors to explain what they can expect from MAP, review progress, establish priorities, and prepare plans for future MAP development.

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6. Costs.

Man years:

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K. Objective 11. (Derived from DCI and DD objectives (Nos. 3, 4, 5).)

1. Statement of Objective.

Contract, equip, and staff the Headquarters Data Access Center.

2. Action Plan.

We selected 5D55 as the site for the Headquarters Data Access Center, made the necessary space renovations, installed data communication lines to the Computer Center, installed computer terminals, and acquired and trained operators.

3. Progress and Shortfall.

All of the tasks related to the achievement of this objective were accomplished. By October 1972 equipment was in place and operators were ready to begin operational test of facility with MAP applications.

4. Problems.

Problems were minor; we had difficulty getting delivery of Delta Data terminals and we had technical problems with this equipment after it was installed. These problems were satisfactorily resolved.

5. Future Plans.

We will be using the Headquarters DAC as a base for developing operating procedures for management and control of the GIMS II software (system backup, security, etc.). Personnel will be designated for inputting data at the terminals. Procedures for accepting operating responsibility for MAP projects will be developed and put into effect.

6. Costs.

Man years:

Dollars:

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L. Objective 12. (Derived from DCI and DD objectives (Nos. 3, 4, 5).)

1. Statement of Objective.

Select several MAP applications and bring them into operational status by the end of FY 1973.

2. Action Plan.

The Budget Control System and the Contract Information System were designated as high priority projects by OPPB and OL, respectively. Another system, the Central Badging System, was designated by MAP Task Force management as useful system for testing MAP design concepts, GIMS II software, and DAC operating procedures. Special attention and effort was applied to these systems in order to complete programs, procedures, and data bases.

3. Progress and Shortfall.

All of these systems were operational by the end of the year. The Budget Control System has met its processing and reporting objectives on a timely basis. The Central Badging System, while operational, has had poor computer response time. It appears that some "tuning" of the GIMS II software can correct this problem. The Contract Information System was plagued with severe errors in the data base.

4. Problems.

An indication of the problems with this objective are mentioned in the shortfall described above. In general, our problems were attributable to the fact that these were our first systems to be "brought on the air" with GIMS II software; we lacked practical experience with this software. Our problems with the Contract Information System data base resulted from a misuse of the data edit facility in the GIMS II software as well as lax enforcement of instructions for coding the basic data. This data base was corrected by extensive reprogramming and manual effort. The system has been successfully used by the Office of Logistics.

5. Future Plans.

The Budget Control System will continue to grow in an evolutionary fashion. The Central Badging System has not been in operation long enough for a thorough evaluation. The Contract

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Information System will be expanded to meet additional requirements from the Office of Logistics and the Office of Finance.

6. Costs.

Man years:

Dollars:

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M. Objective 13. Derived from DCI and DD objectives. (Nos. 3, 4)

1. Statement of Objective.

Finish testing and begin using the new Payroll system.

2. Action Plan.

During FY 1973 our action plan required that we complete the following milestones in order to put the new Payroll system in operation.

a. Complete the documentation of Payroll procedures and computer programs.

b. Train Office of Finance personnel in the use of the new system.

c. Test computer programs and make necessary modifications.

d. Run a parallel test of the new system comparing its results with those of the existing (old) Payroll system.

e. Switch over to the new system when the tests proved it ready for operation.

3. Progress and Shortfall.

Considerable slippage was encountered in this objective. This can be attributed to inadequate planning and coordination among the Offices working on the system, inadequate system specifications, a requirement for sophisticated programming techniques, and, in some cases, inexperienced personnel. Apart from this shortfall, the new Payroll system performed satisfactorily when we switched over to it in May 1973.

4. Problems.

Problems have been described in the narrative on shortfall above. Balanced against such factors as complexity of the underlying Payroll policies, the extraordinary demands for accuracy, the need for audit trails, and the system reliability required to meet the short schedule allowed for Payroll processing, our problems were overcome with reasonable success.

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

SECRET

SECRET

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

5. Future Plans.

Payroll systems don't stand still. The old computer system had been modified and patched to a point where it was impractical to extend it to accommodate the consolidation of various payrolls into a single system. We expect the new system will also require enhancements from time to time. We plan to incorporate such changes, as much as possible, in a manner that will preclude the need for a major system overhaul downstream.

6. Costs.

Man years:

Dollars:



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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

N. Objective 14. Derived from DCI and DD objectives. (Nos. 4, 5)

1. Statement of Objective.

Complete consolidation of CRS computer processing activities in OJCS by 30 October 1974.

2. Action Plan.

A study of the tradeoffs and the feasibility of consolidating CRS computer processing activity in OJCS was conducted by OPPB with assistance from CRS and OJCS. The CIA Management Committee reviewed the plan and the DCI approved the plan on 20 March 1973. On 13 April 1973 a Task Team was formed with [ ] as Chairman to carry out the consolidation tasks. Subgroups were formed to plan and carry out tasks such as: making the necessary changes in computer hardware, converting CRS programs for OJCS production facilities, working out the personnel adjustments, providing for security and logistical impacts. Four milestones were set for the consolidation:

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a. Convert the CRS batch processing workload to OJCS computers by 1 August 1973.

b. Convert the CRS online applications to OJCS computers by the end of September 1973.

c. Develop a plan for reallocation of space, adjustments in staffing complement, and reassignment of personnel by 30 September.

d. Release the CRS computer and computer room space by 15 October 1973.

3. Progress and Shortfall.

As of the end of June 1973 all major activities were proceeding as scheduled. Projected savings were approximately \$900,000 a year in equipment rental and five positions.

4. Problems.

There were some problems because of basic differences in the operator responsibilities in OJCS and CRS. CRS operators had a larger role in determining the processing that was carried out

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

SECRET

SECRET

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

on each job; OJCS operators are job independent. They simply carry out the process specified by the systems analyst or programmer. A CRS operator was detailed to the conversion team and this provided the necessary information to solve the problem.

5. Future Plans.

We anticipate only minor changes in the action plan described in paragraph 2, above. We are experiencing delivery problems with certain equipment needed on the OJCS computers (block multiplexor, additional memory) for CRS online applications. This may add several weeks to our schedule for taking over these applications and releasing the CRS IBM 360/155 computer.

6. Costs.

Man years:

Dollars:

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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

SECRET



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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

III. OTHER ACTIVITIES.

Those Office resources which have not been accounted for in the objectives shown in Section II are shown below by significant Office functions.

A. Management and Administration.

These are the normal front office activities concerned with management of the Office, administration, planning and reporting.

Man years:

25X1

Dollars:

B. ADP Training.

The Office maintains an ADP Training Staff which conducts courses for a wide range of ADP subjects. More than 65 courses were conducted for over 1200 students in FY 1973.

Man years:

25X1

Dollars:

C. System Analysis and Programming Support to Scientific Problems.

Man years:

25X1

Dollars:

D. Systems Analysis and Programming Support to Intelligence Applications.

Man years:

25X1

Dollars:

E. Systems Analysis and Programming Support to Management and Services Applications.

Man years:

25X1

Dollars:

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

SECRET

SECRET

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

F. Development of New Computer Equipment and Techniques.

Man years:

25X1

Dollars:

G. Operation of Computer Center.

Man years:

25X1

Dollars:

H. Grand Total.

Man years:

25X1

Dollars:

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

## IV. RESOURCES SUMMARY FOR FY 1973.

### A. Objectives.

Man years

Dollars

1. Put into operation by 30 June 1973 a Mass Storage System for storing two-hundred billion bits of data online; expand this system to a trillion bits in FY 1976.

25X1

2. Expand the present OJCS resource accounting and pricing system to include facilities for resource allocation by 30 September 1973. The expansion of this system will provide each user with an allocation for computer services in advance of use periods in addition to the after-the-fact accounting of computer services now reported.

3. Develop by 30 June 1974 a capability for measuring the use of elements in a computer system (tape drives, disk storage, core storage, channels, etc.) and evaluating the needs for such elements in the system.

4. Improve the technical security of OJCS computer systems.

5. Develop by 30 June 1974 personnel management systems for job descriptions, career paths, training programs, employee evaluations, and career counselling.

6. Develop a computer hardware/-operating system configuration that uses the increased power of the newly installed IBM 360/195, switching devices, and shared peripheral resources to increase system availability, improve reliability, and reduce maintenance requirements on operating systems.

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

# SECRET

SECRET

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

7. Develop an aid for computer operators which will help them to identify the cause of computer system failures and provide them with a recommended course of action for recovering from such failures.

25X1

8. Develop simulation software for IBM 360 equipment so that RCA computer systems can be released by the end of January 1973.

9. Complete acceptance testing of GIMS II (Generalized Information Management System).

10. Complete the analysis and design phase for all MAP applications.

11. Contract, equip, and staff the Headquarters Data Access Center.

12. Select several MAP applications and bring them into operational status by the end of FY 1973.

13. Finish testing and begin using the new Payroll system.

14. Complete consolidation of CRS computer processing activities in OJCS by 30 October 1974.

Subtotal for all objectives:

B. Other Activities Not Subsummed Under O

1. Management and administration.
2. ADP training.
3. Systems analysis and programming support to scientific applications.
4. Systems analysis and programming support to intelligence applications.

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

SECRET

SECRET

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

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5. Systems analysis and programming support to management and services.

6. Development of new computer equipment and techniques.

7. Operation of Computer Center.

Subtotal other activities:

GRAND TOTAL:



Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

SECRET

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Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

V. RECOMMENDATIONS.

The Program Call of December 1972 formally introduced the requirement for objectives in our program planning activities. Since that time, we have received much theory and some specific requirements for managing by objectives. The basic concept is not new; what is new is our use of this concept. We are learning much in the procedures, the accounting, the record keeping, the evaluation methods, and other techniques that must be developed and put into practice before one can have a smoothly functioning system. Unfortunately, we, to a large degree, have been learning as we worked our way through various reporting requirements for the first time. Thus, these first efforts are not as good as we would like them to be. We have learned some of the pitfalls -- some of the problems of definition -- some of the difficulties in quantifying and synthesizing information. We want a system that is not burdensome to manage. We want a system that can be used at many levels in the Office -- one that will permit easy summarization for Component, DD, and DCI objectives. From the start that has been made, we need to develop a more precise system and to train our managers in its use. The system should also be designed so that it can tie in with other methods that are used to synthesize data: by cost centers, by function, by customer, by project, by object classifications.

It might be profitable to arrange Directorate-wide meetings for DDM&S Planning Staff personnel and Office level planning officers so that experiences, problems and plans in the management by objective program can be shared and used to improve the quality of our efforts.

Approved For Release 2005/06/03 : CIA-RDP78-03948A000100070001-0

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